

Listing of the claims:

1. (previously presented) A stent, in particular a coronary stent, for expansion from a first condition into an expanded second condition in which it holds a vessel in an expanded state, said stent comprising:

a tubular body, a peripheral surface of which is formed by a plurality of support portions that extend in a longitudinal direction of the stent, the support portions comprising:

a plurality of bar elements wherein each end of each bar element, excepting bar elements on the ends of the tubular body, connects to an adjacent bar element, forming an angle of between 80° and 100°; and

a plurality of connecting bars extending substantially rectilinearly in the longitudinal direction of the stent that connect the bar elements;

wherein the support portions form a plurality of support portion groups with at least a first support portion and a second support portion in adjacent relationship thereto in a peripheral direction of the stent, the bar elements of which extend in a meander configuration in the longitudinal direction of the stent, and

wherein a first engagement point of the connecting bars engages the first support portion and a second engagement point of the connecting bars engages the second support portion, such that the first and second engagement points are spaced apart from each other in the longitudinal direction of the stent and the connecting bars are configured and arranged so the spacing in the longitudinal direction between the first and second engagement points decreases upon expansion of the stent to compensate for a reduction in length of the respective support portions.

2. (previously presented) The stent of claim 1, wherein

at least the bar elements of a first support portion and of the two second support portions arranged in the peripheral direction of the stent at both sides of the first support portion extend in a meander configuration in the longitudinal direction of the stent and

the first engagement points of the connecting bars engage the first support portion and the second engagement points of the connecting bars engage one of the two second support portions,

wherein the first and second engagement points are spaced relative to each other in the longitudinal direction of the stent and the connecting bars are configured and arranged so that the

spacing in the longitudinal direction of the stent changes between the first and second engagement points decreases upon expansion of the stent in the same manner.

3. (original) The stent of claim 1, wherein at least the first engagement points of the connecting bars are located near a turning point of the bar element to which the connecting point is engaged.
4. (original) The stent of claim 3, wherein the second engagement points of the connecting bars are located near a turning point of the bar element to which the connecting point is engaged.
5. (original) The stent of claim 2, wherein at least the first engagement points of the connecting bars are located near a turning point of the bar element to which the connecting point is engaged.
6. (original) The stent of claim 5, wherein the second engagement points of the connecting bars are located near a turning point of the bar element to which the connecting point is engaged.
7. (original) The stent of claim 1, wherein the connecting bars are of a substantially straight configuration.
8. (original) The stent of claim 2, wherein the connecting bars are of a substantially straight configuration.
9. (original) The stent of claim 4, wherein the connecting bars are of a substantially straight configuration.
10. (original) The stent of claim 6, wherein the connecting bars are of a substantially straight configuration.
11. (original) The stent of claim 1, wherein a connecting line between the first and second engagement points extends substantially in the longitudinal direction of the stent.

12. (original) The stent of claim 7, wherein a connecting line between the first and second engagement points extends substantially in the longitudinal direction of the stent.

13. (original) The stent of claim 8, wherein a connecting line between the first and second engagement points extends substantially in the longitudinal direction of the stent.

14. (original) The stent of claim 9, wherein a connecting line between the first and second engagement points extends substantially in the longitudinal direction of the stent.

15. (original) The stent of claim 10, wherein a connecting line between the first and second engagement points extends substantially in the longitudinal direction of the stent.

16-33. (cancelled)

34. (original) The stent of claim 1, wherein the bar elements of the first and second support portions are of substantially the same periodic configuration and a length of the connecting bars is such that the adjacent bar elements in the first condition of the stent are displaced relative to each by up to a quarter period in the longitudinal direction of the stent.

35. (original) The stent of claim 23, wherein the bar elements of the first and second support portions are of substantially the same periodic configuration and a length of the connecting bars is such that the adjacent bar elements in the first condition of the stent are displaced relative to each by up to a quarter period in the longitudinal direction of the stent.

36. (original) The stent of claim 25, wherein the bar elements of the first and second support portions are of substantially the same periodic configuration and a length of the connecting bars is such that the adjacent bar elements in the first condition of the stent are displaced relative to each by up to a quarter period in the longitudinal direction of the stent.

37. (original) The stent of claim 27, wherein the bar elements of the first and second support portions are of substantially the same periodic configuration and a length of the connecting bars is such that the adjacent bar elements in the first condition of the stent are displaced relative to each by up to a quarter period in the longitudinal direction of the stent.

38. (original) The stent of claim 29, wherein the bar elements of the first and second support portions are of substantially the same periodic configuration and a length of the connecting bars is such that the adjacent bar elements in the first condition of the stent are displaced relative to each by up to a quarter period in the longitudinal direction of the stent.

39. (original) The stent of claim 31, wherein the bar elements of the first and second support portions are of substantially the same periodic configuration and a length of the connecting bars is such that the adjacent bar elements in the first condition of the stent are displaced relative to each by up to a quarter period in the longitudinal direction of the stent.

40. (original) The stent of claim 33, wherein the bar elements of the first and second support portions are of substantially the same periodic configuration and a length of the connecting bars is such that the adjacent bar elements in the first condition of the stent are displaced relative to each by up to a quarter period in the longitudinal direction of the stent.

41. (original) The stent of claim 1, wherein the bar elements of the first and second support portions are of substantially the same period configuration and a length of the connecting bars is such that in the second condition of the stent the adjacent bar elements extend substantially in phase with each other with respect to the longitudinal direction of the stent.

42. (original) The stent of claim 1, wherein the bar elements of the first and second support portions are of substantially the same period configuration and a length of the connecting bars is such that in the second condition of the stent the adjacent bar elements extend substantially in phase with each other with respect to the longitudinal direction of the stent.

43. (original) The stent of claim 34, wherein the bar elements of the first and second support portions are of substantially the same period configuration and a length of the connecting bars is such that in the second condition of the stent the adjacent bar elements extend substantially in phase with each other with respect to the longitudinal direction of the stent.

44. (original) The stent of claim 35, wherein the bar elements of the first and second support portions are of substantially the same period configuration and a length of the connecting bars is such that in the second condition of the stent the adjacent bar elements extend substantially in phase with each other with respect to the longitudinal direction of the stent.

45. (original) The stent of claim 36, wherein the bar elements of the first and second support portions are of substantially the same period configuration and a length of the connecting bars is such that in the second condition of the stent the adjacent bar elements extend substantially in phase with each other with respect to the longitudinal direction of the stent.

46. (original) The stent of claim 37, wherein the bar elements of the first and second support portions are of substantially the same period configuration and a length of the connecting bars is such that in the second condition of the stent the adjacent bar elements extend substantially in phase with each other with respect to the longitudinal direction of the stent.

47. (original) The stent of claim 38, wherein the bar elements of the first and second support portions are of substantially the same period configuration and a length of the connecting bars is such that in the second condition of the stent the adjacent bar elements extend substantially in phase with each other with respect to the longitudinal direction of the stent.

48. (original) The stent of claim 39, wherein the bar elements of the first and second support portions are of substantially the same period configuration and a length of the connecting bars is such that in the second condition of the stent the adjacent bar elements extend substantially in phase with each other with respect to the longitudinal direction of the stent.

49. (original) The stent of claim 40, wherein the bar elements of the first and second support portions are of substantially the same period configuration and a length of the connecting bars is such that in the second condition of the stent the adjacent bar elements extend substantially in phase with each other with respect to the longitudinal direction of the stent.

50. (original) The stent of claim 1, wherein the bar elements are designed to increase the flexibility of the stent.

51. (original) The stent of claim 41, wherein the bar elements are designed to increase the flexibility of the stent.

52. (original) The stent of claim 42, wherein the bar elements are designed to increase the flexibility of the stent.

53. (original) The stent of claim 43, wherein the bar elements are designed to increase the flexibility of the stent.

54. (original) The stent of claim 44, wherein the bar elements are designed to increase the flexibility of the stent.

55. (original) The stent of claim 45, wherein the bar elements are designed to increase the flexibility of the stent.

56. (original) The stent of claim 46, wherein the bar elements are designed to increase the flexibility of the stent.

57. (original) The stent of claim 47, wherein the bar elements are designed to increase the flexibility of the stent.

58. (original) The stent of claim 48, wherein the bar elements are designed to increase the flexibility of the stent.

59. (original) The stent of claim 1, wherein at least one support portion formed by a bar element, the direction of curvature of which changes in a central region between a pair of turning points.

60. (previously presented) A catheter for stent implantation, said catheter comprising:  
a stent for expansion from a first condition into an expanded second condition in which it holds a vessel in an expanded state, said stent comprising:

a tubular body, a peripheral surface of which is formed by a plurality of support portions that extend in a longitudinal direction of the stent, the support portions comprising:

a plurality of bar elements wherein each end of each bar element, excepting bar elements on the ends of the tubular body, connects to an adjacent bar element, forming an angle of between 80° and 100°; and

a plurality of connecting bars extending substantially rectilinearly in the longitudinal direction of the stent that connect the bar elements;

wherein the support portions form a plurality of support portion groups with at least a first support portion and a second support portion in adjacent relationship thereto in a peripheral direction of the stent, the bar elements of which extend in a meander configuration in the longitudinal direction of the stent, and

wherein a first engagement point of the connecting bars engages the first support portion and a second engagement point of the connecting bars engages the second support portion, such that the first and second engagement points are spaced apart from each other in the longitudinal direction of the stent and the connecting bars are configured and arranged so the spacing in the longitudinal direction between the first and second engagement points decreases upon expansion of the stent to compensate for a reduction in length of the respective support portions.